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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,814	10/20/2003	William C. Cox	03549.0088-01	2634

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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,814

Applicant(s)

COX ET AL.

Examiner

Ula C. Ruddock

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6-14, 16, and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-14, 16, 25-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed March 21, 2005. The rejections in view of Smith (US 5,491,022) and Dunham et al. (US 6,265,082) have been overcome in view of Applicant's presently filed response.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

3. The declaration filed on March 21, 2005, under 37 CFR 1.131 is sufficient to overcome the Dunham et al. (US 6,265,082) reference.

Double Patenting

4. Claims 1, 6-14, 16, 24-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-1-12 of U.S. Patent No. 6,713,411. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are obvious variants over one another.

Rejection is maintained.

Claim Rejections - 35 USC § 102/103

5. Claims 1, 6-14, 16, and 25-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen (US 3,900,625). Chen discloses a composite laminate noninterwoven fabric made of synthetic fibers (col 2, ln 48-50 and 57-61). As shown in Example 2, the composite comprises a 3 mil (.003 inches) polyethylene film, a 3 mil (.003 inches) polyvinyl chloride film, an adhesive material comprising chlorinated paraffin wax and 3%

antimony oxide, and two non-woven nylon fiber grid layers (col 6, ln 1-12). The chlorinated paraffin can be added in an amount of 5% (col 7, ln 7-8). With regard to claim 16, it has been held that a recitation with respect to the manner in which a claimed product is intended to be employed does not differentiate the claimed product from a prior art product satisfying the claimed structural limitations. *Ex parte Masham*, 2 UPQ2d 1647 (1987). Therefore, the term "protective garment" has not been given any patentable weight.

Although Chen does not explicitly teach that the laminate passes NFPA 701-1989, has at least 12.0 lbs of grab tensile according to INDA IST 110.3-92, and has a Suter hydrostatic head of at least 50 cm, it is reasonable to presume that these properties are inherent to the composite of Chen. Support for said presumption is found in the use of like materials (i.e. PVC film, polyethylene film, synthetic nonwoven fabric, adhesive, antimony oxide and chlorinated paraffin fire retardants). The burden is upon Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In addition, the presently claimed properties of NFPA 701-1989, 12.0 lbs of grab tensile according to INDA IST 110.3-92, and Suter hydrostatic head of at least 50 cm would obviously have been present once the Chen product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

With regard to claim 28 and 30, Chen fails to disclose that the nonwoven fabric has a weight ranging from 1-4 ounces per square yard and that the polymeric film has a weight ranging from 0.05 to 10 ounces per square yard. It should be noted that the basis weight of the fabric and film is a result effective variable. The greater the weight of the fabric directly affects the strength of the fabric and the greater the weight of the film directly affects the flame retardance of the composite.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the fabric have a weight ranging from 1-4 ounces per square yard and the polymeric film have a weight ranging from 0.05 to 10 ounces per square yard, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the basis weight of the fabric and film, motivated by the desire to create a composite that has high strength, tear resistance, and increased flame retardant properties.

Rejection is maintained.

Claim Rejections - 35 USC § 103

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 3,900,625), as shown above, in view of Smith (US 5,491,022). Chen discloses the claimed invention except for the teaching that the third polymeric film is an ethylene vinyl alcohol.

Smith (US 5,491,022) teaches a fire and chemical resistant fabric with comprises at least one laminate formed by coextruding a pair of polymeric sheets with an intermediate layer of a hydrophilic polymer which is adhered to a fabric scrim, comprising a blend of polyester and cellulosic fibers, the fabric scrim containing an effective amount of a fire resistant agent (abstract). The coextruded sheets are adhered to the scrim fabric by use of an adhesive or by fusion bonding (col 3, ln 1-4). The sheets can be polymeric materials such as polyethylene (col 3, ln 5-9). The coextruded sheets that form the laminate are of a thickness of about 0.5 to 3 mils each (col 3, ln 9-11). A halogen-containing organic flame retarder and an auxiliary flame-retarding agent may also

be added to provide the outer film with improved resistance to burning. The fabrics are used in the preparation of lightweight protective garments (col 1, ln 3-5). Furthermore, Smith discloses an intermediate layer that is preferably a polymer material such as ethylene vinyl alcohol (col 3, ln 12-16).

It would have been obvious to one having ordinary skill in the art to have used Smith's ethylene vinyl alcohol layer in the laminate of Chen, motivated by the desire to create a laminate having the desired properties associated with ethylene vinyl alcohol polymeric film layers.

Response to Arguments

7. Applicant's arguments filed March 21, 2005, have been fully considered but they are not persuasive for the reasons set forth. Applicant argues that Chen's grid of fibers is not a nonwoven fabric. This argument is not persuasive because example 2 (col 6, ln 9-10) in the Chen reference specifically discloses that the fiber grid consists of two non-woven layers. Furthermore, Chen describes the grid as being not interwoven and made of fibers; thus, it is the Examiner's position that it must be a fabric and based on Figure 1, it is a nonwoven. Applicant also argues that Chen does not rely on the fibers to provide any structural integrity to the laminate, but only to reinforce the films. This argument is not persuasive if the fibers reinforce the film, as stated by Applicant, it does provide structural integrity to the laminate as a whole. Finally, the composite begins to tear only under stress and that is when the fibers of the nonwoven move. Prior to that, the fibers are unable to move and were adhesively bonded to each other in the laminate. As seen in the figures, the nonwoven grids are embedded in the laminate. As a result, how they are bonded is irrelevant until sufficient stress is put on the laminate.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C. Ruddock whose telephone number is 571-272-1481. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

UCR *UCR*

ula Ruddock
Ula C. Ruddock
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